



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2018-0162; Product Identifier 2017-NM-116-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to supersede Airworthiness Directive (AD) 2016-18-01, which applies to certain The Boeing Company Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes. AD 2016-18-01 requires repetitive lubrication of the forward and aft trunnion pin assemblies of the right and left main landing gears (MLGs); repetitive inspection of these assemblies for corrosion and chrome damage, and related investigative and corrective actions, if necessary; and installation of new or modified trunnion pin assembly components, which terminates the repetitive lubrication and repetitive inspections. Since we issued AD 2016-18-01, we have determined that rotatable parts were not addressed in that AD and that all airplanes of the affected models, excluding those with a certain configuration, should be inspected to determine if affected MLG trunnion pin assemblies are installed. This proposed AD would therefore add airplanes to the applicability. We are proposing this AD to address the unsafe condition on these products.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0162.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0162; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Alan Pohl, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; telephone and fax: 206-231-3527; email: alan.pohl@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2018-0162; Product Identifier 2017-NM-116-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

**Discussion**

We issued AD 2016-18-01, Amendment 39-18631 (81 FR 59830, August 31, 2016) (“AD 2016-18-01”), for certain The Boeing Company Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes. AD 2016-18-01 requires repetitive lubrication of the forward and aft trunnion pin assemblies of the right and left MLGs; repetitive inspection of these assemblies for corrosion and chrome damage, and related investigative and corrective actions, if necessary; and installation of new or modified trunnion pin assembly components, which terminates the repetitive lubrication and repetitive inspections. AD 2016-18-01 resulted from reports of heavy corrosion and chrome damage on the forward and aft trunnion pin assemblies of the right and left

MLGs. We issued AD 2016-18-01 to detect and correct heavy corrosion and chrome damage on the forward and aft trunnion pin assemblies of the right and left MLGs, which could result in cracking of these assemblies and collapse of the MLGs.

#### **Actions Since AD 2016-18-01 Was Issued**

To support operations, many operators have put processes in place that, given certain conditions, allow them to rotate or transfer parts or equipment within their fleets to different aircraft than what is defined in the manufacturer's type design. We have determined that the parts or equipment subject to the unsafe condition addressed by this proposed AD may have been rotated or transferred in this manner, due to similarity with parts or equipment not subject to the unsafe condition addressed by this proposed AD. Therefore, AD 2016-18-01 is being superseded to include all Model 737-600, -700, -700C, -800, -900, and -900ER airplanes.

#### **Related Service Information under 1 CFR part 51**

We reviewed Boeing Special Attention Service Bulletin 737-32-1448, Revision 2, dated August 2, 2017 ("BSASB 737-32-1448, R2"). This service information describes procedures for determining the part numbers of the forward and aft trunnion pin assemblies installed on the right and left MLGs, inspections for corrosion or damage on the forward and aft trunnion pin assemblies and related investigative and corrective actions, repetitive lubrication of these assemblies, and installation of new or modified trunnion pin assembly components. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

#### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

## **Proposed AD Requirements**

This proposed AD would retain all requirements of AD 2016-18-01. This proposed AD would add airplanes to the applicability. This proposed AD would also prohibit the installation of a MLG or MLG trunnion pin assembly on any airplane identified in paragraph (c) of the proposed AD unless certain actions are accomplished. In addition, this proposed AD would require accomplishing the actions specified in the service information described previously, except as discussed under “Differences Between this Proposed AD and the Service Information.” For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0162.

The phrase “related investigative actions” is used in this proposed AD. Related investigative actions are follow-on actions that (1) are related to the primary action, and (2) further investigate the nature of any condition found. Related investigative actions in an AD could include, for example, inspections.

The phrase “corrective actions” is used in this proposed AD. Corrective actions correct or address any condition found. Corrective actions in an AD could include, for example, repairs.

## **Differences Between this Proposed AD and the Service Information**

The effectivity specified in BSASB 737-32-1448, R2 consists of Model 737-600, -700, -700C, -800, -900, and -900ER airplanes identified as line numbers 1 through 6510 inclusive. Expanding the applicability of this proposed AD to all Model 737-600, -700, -700C, -800, -900, and -900ER airplanes addresses the rotability of the MLG trunnion pin assembly.

In this proposed AD, operators would need to accomplish the actions required by paragraphs (g), (h), (i), (j) and (k) of this proposed AD, and comply with the parts installation prohibition in paragraph (m) of this proposed AD, on any Model 737-600,

-700, -700C, -800, -900, and -900ER airplanes with an original Certificate of Airworthiness or an original Export Certificate of Airworthiness dated on or before the effective date of the final rule. We have confirmed with Boeing that the accomplishment instructions in BSASB 737-32-1448, R2 are applicable to these expanded groups of airplanes.

For Model 737-600, -700, -700C, -800, -900, and -900ER airplanes with an original Certificate of Airworthiness or an original Export Certificate of Airworthiness dated after the effective date of the final rule, operators would not be required to comply with the requirements of paragraphs (g), (h), (i), (j), and (k) of this proposed AD, but would be required to comply with the parts installation prohibition in paragraph (m) of this proposed AD.

### **Costs of Compliance**

We estimate that this proposed AD affects up to 1,814 airplanes of U.S. registry. We estimate the following costs to comply with this proposed AD:

#### **Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Lubrication (retained actions from AD 2016-18-01)	2 work-hours X \$85 per hour = \$170 per lubrication cycle	\$0	\$170 per lubrication cycle	\$173,910, per lubrication cycle (1,023 airplanes)
Inspection (Groups 1 and 2, Configuration 1 airplanes; retained actions from AD 2016-18-01)	51 work-hours X \$85 per hour = \$4,335 per inspection cycle	\$0	\$4,335 per inspection cycle	\$4,282,980 per inspection cycle (988 airplanes)

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Inspection (Group 3 airplanes; retained actions from AD 2016-18-01)	93 work-hours X \$85 per hour = \$7,905 per inspection cycle	\$0	\$7,905 per inspection cycle	\$276,675 per inspection cycle (35 airplanes)
Replacement/overhaul (Groups 1 and 2 airplanes; retained actions from AD 2016-18-01)	84 work-hours X \$85 per hour = \$7,140	\$0	\$7,140	\$7,054,320 (988 airplanes)
Replacement/overhaul (Group 3 airplanes retained actions from AD 2016-18-01)	86 work-hours X \$85 per hour = \$7,310	\$0	\$7,310	\$255,850 (35 airplanes)
Lubrication pin assemblies (new proposed action, Work Packages 1 and 2)	2 work-hours X \$85 per hour = \$170 per lubrication cycle	\$0	\$170 per lubrication cycle	\$308,380, per lubrication cycle (up to 1,814 airplanes)
Inspection (new proposed action; Groups 1, 2, 4, and 5, Configuration 1 airplanes; Work Package 2)	51 work-hours X \$85 per hour = \$4,335 per inspection cycle	\$0	\$4,335 per inspection cycle	\$7,594,920 per inspection cycle (1,752 airplanes)
Inspection (new proposed action; Groups 3 and 6 airplanes; Work Package 2)	93 work-hours X \$85 per hour = \$7,905 per inspection cycle	\$0	\$7,905 per inspection cycle	\$490,110 per inspection cycle (62 airplanes)
Replacement/overhaul trunnion pin assembly (Groups 1, 2, 4, and 5 airplanes; new proposed action; Work Package 2)	84 work-hours X \$85 per hour = \$7,140	\$0	\$7,140	\$12,509,280 (up to 1,752 airplanes)

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Replacement/overhaul trunnion pin assembly (Groups 3 and 6 airplanes; new proposed action; Work Package 2)	86 work-hours X \$85 per hour = \$7,310	\$0	\$7,310	\$453,220 (62 airplanes)

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this proposed AD.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This proposed AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes to the Director of the System Oversight Division.



## **Regulatory Findings**

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2016-18-01, Amendment 39-18631 (81 FR 59830, August 31, 2016), and adding the following new AD:

**The Boeing Company:** Docket No. FAA-2018-0162; Product Identifier 2017-NM-116-AD.

**(a) Comments Due Date**

The FAA must receive comments on this AD action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD replaces AD 2016-18-01, Amendment 39-18631 (81 FR 59830, August 31, 2016) (“AD 2016-18-01”).

**(c) Applicability**

This AD applies to all The Boeing Company Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes, certificated in any category, as specified in paragraphs (c)(1) through (c)(7) of this AD

(1) Airplanes in Groups 1 and 2, Configuration 1, as identified in Boeing Special Attention Service Bulletin 737-32-1448, Revision 2, dated August 2, 2017 (“BSASB 737-32-1448, R2”).

(2) Airplanes in Groups 1 and 2, Configuration 2, as identified in BSASB 737-32-1448, R2.

(3) Airplanes in Group 3, as identified in BSASB 737-32-1448, R2.

(4) Airplanes in Groups 4 and 5, Configuration 1, as identified in BSASB 737-32-1448, R2, except where this service bulletin specifies the groups as line numbers 3527 through 6510 inclusive, this AD specifies those groups as line number 3527 through any line number of an airplane with an original Certificate of Airworthiness or an original Export Certificate of Airworthiness dated on or before the effective date of this AD.

(5) Airplanes in Groups 4 and 5, Configuration 2, as identified in BSASB 737-32-1448, R2, except where this service bulletin specifies the groups as line numbers 3527 through 6510 inclusive, this AD specifies those groups as line number 3527 through any

line number of an airplane with an original Certificate of Airworthiness or an original Export Certificate of Airworthiness dated on or before the effective date of this AD.

(6) Airplanes in Groups 6 as identified in BSASB 737-32-1448, R2, except where this service bulletin specifies the groups as line numbers 3527 through 6510 inclusive, this AD specifies those groups as line number 3527 through any line number of an airplane with an original Certificate of Airworthiness or an original Export Certificate of Airworthiness dated on or before the effective date of this AD.

(7) All Model 737-600, -700, -700C, -800, -900 and -900ER series airplanes with an original Certificate of Airworthiness or an original Export Certificate of Airworthiness dated after the effective date of this AD.

**(d) Subject**

Air Transport Association (ATA) of America Code 32, Landing Gear.

**(e) Unsafe Condition**

This AD was prompted by reports of heavy corrosion and chrome damage on the forward and aft trunnion pin assemblies of the right and left main landing gears (MLGs). We are issuing this AD to detect and correct heavy corrosion and chrome damage on the forward and aft trunnion pin assemblies of the right and left MLGs, which could result in cracking of these assemblies and collapse of the MLGs.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspection to Determine Part Number of MLG Trunnion Pin Assembly**

For airplanes identified in paragraphs (c)(1), (c)(3), (c)(4), and (c)(6) of this AD: Except as required by paragraph (l) of this AD, at the applicable time specified in Table 1, Table 2, Table 4, or Table 5, of paragraph 1.E., “Compliance,” of BSASB 737-32-1448, R2, do an inspection to determine if any of the MLG trunnion pin assembly part numbers identified in paragraph 2.C.3., “Parts Modified and Reidentified,” of BSASB

737-32-1448, R2, are installed. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number of each MLG trunnion pin assembly can be conclusively determined from that review.

**(h) Repetitive Lubrication of MLG Trunnion Pin Assemblies**

For airplanes identified in paragraphs (c)(1), (c)(3), (c)(4), or (c)(6) of this AD, having any part number identified in paragraph 2.C.3., “Parts Modified and Reidentified,” of BSASB 737-32-1448, R2, installed: Except as required by paragraph (l) of this AD, at the applicable time specified in Table 1, Table 2, Table 4, or Table 5, of paragraph 1.E., “Compliance,” of BSASB 737-32-1448, R2, lubricate the applicable forward and aft trunnion pin assemblies of the right and left MLGs, in accordance with Work Package 1 of the Accomplishment Instructions of BSASB 737-32-1448, R2. Repeat the lubrication thereafter at intervals not to exceed those specified in Table 1, Table 2, Table 4, or Table 5, of paragraph 1.E., “Compliance,” of BSASB 737-32-1448, R2. Accomplishment of the actions specified in paragraph (j) of this AD terminates the repetitive lubrication required by this paragraph.

**(i) Repetitive Inspections, Corrective Actions, and Lubrication**

For airplanes identified in paragraphs (c)(1), (c)(3), (c)(4), or (c)(6) of this AD, having any part number identified in paragraph 2.C.3., “Parts Modified and Reidentified,” BSASB 737-32-1448, R2, installed: Except as required by paragraph (l) of this AD, at the applicable time specified in Table 1, Table 2, Table 4, or Table 5, of paragraph 1.E., “Compliance,” of BSASB 737-32-1448, R2, do a general visual inspection of the left and right MLGs at the forward and aft trunnion pin locations and the visible surfaces of the forward and aft trunnion pin assemblies for discrepancies including signs of corrosion or chrome plating damage, and lubricate the forward and aft trunnion pin assemblies as applicable, in accordance with Work Package 2 of the Accomplishment Instructions of BSASB 737-32-1448, R2. Repeat the general visual inspection thereafter

at intervals not to exceed those specified in paragraph 1.E., “Compliance,” of BSASB 737-32-1448, R2. If any discrepancy is found during any inspection required by this paragraph, before further flight, do all applicable related investigative and corrective actions in accordance with Work Package 2 of the Accomplishment Instructions of BSASB 737-32-1448, R2. Accomplishment of the actions required by paragraph (j) of this AD terminates the repetitive inspections required by this paragraph.

**(j) Modification of MLG Trunnion Pin Assemblies**

For airplanes identified in paragraphs (c)(1), (c)(3), (c)(4), or (c)(6) of this AD, having any part number identified in paragraph 2.C.3., “Parts Modified and Reidentified,” BSASB 737-32-1448, R2 installed: Except as required by paragraph (l) of this AD, at the time specified in Table 1, Table 2, Table 4, or Table 5, as applicable, of paragraph 1.E., “Compliance,” of BSASB 737-32-1448, R2, modify the left and right MLG trunnion pin assemblies, including all applicable related investigative and corrective actions, in accordance with Work Package 3 of the Accomplishment Instructions of BSASB 737-32-1448, R2. All applicable related investigative and corrective actions must be done at the time specified in paragraph 1.E., “Compliance,” of BSASB 737-32-1448, R2. Accomplishment of the actions in Work Package 3 of the Accomplishment Instructions of BSASB 737-32-1448, R2 terminates the repetitive lubrication required by paragraph (h) of this AD and the repetitive inspections required by paragraph (i) of this AD.

**(k) Replacement of MLG Forward Trunnion Pin Housing Assembly, Seal, and Retainer**

For airplanes identified in paragraphs (c)(2) and (c)(5) of this AD: Except as required by paragraph (l) of this AD, at the time specified in Table 3 or Table 6, as applicable, of paragraph 1.E., “Compliance,” of BSASB 737-32-1448, R2, replace the seal, retainer, and support ring assembly with a new seal and retainer configuration; install the forward trunnion pin assembly into the housing assembly; and lubricate the

forward and aft trunnion pin assemblies for the left and right MLGs; in accordance with Work Package 4 of the Accomplishment Instructions of BSASB 737-32-1448, R2.

**(l) Exception to Service Information Specification**

Where paragraph 1.E., “Compliance,” of BSASB 737-32-1448, R2 specifies a compliance time “after the Revision 2 date of this service bulletin,” this AD requires compliance within the specified compliance time after the effective date of this AD.

**(m) Parts Installation Limitation**

As of the effective date of this AD, no person may install a MLG or MLG trunnion pin assembly on any airplane identified in paragraphs (c)(1) through (c)(7) of this AD unless the actions required by paragraphs (j) or (k), as applicable, of this AD have been accomplished on the MLG or MLG trunnion pin assembly.

**(n) Credit for Previous Actions**

(1) This paragraph provides credit for the requirements of paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Boeing Special Attention Service Bulletin 737-32-1448, dated May 19, 2011; or Boeing Special Attention Service Bulletin 737-32-1448, Revision 1, dated May 29, 2015.

(2) This paragraph provides credit for the requirements of paragraphs (i), (j), and (k) of this AD, if those actions were performed before the effective date of this AD using Boeing Special Attention Service Bulletin 737-32-1448, Revision 1, dated May 29, 2015.

**(o) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in

paragraph (p)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) AMOCs approved previously for AD 2016-18-01 are approved as AMOCs for the corresponding provisions of this AD.

**(p) Related Information**

(1) For more information about this AD, contact Alan Pohl, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; telephone and fax: 206-231-3527; email: alan.pohl@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued in Renton, Washington, on February 20, 2018.

Michael Kaszycki,  
Acting Director,  
System Oversight Division,  
Aircraft Certification Service.

[FR Doc. 2018-04228 Filed: 3/2/2018 8:45 am; Publication Date: 3/5/2018]